

A subsidiary of Green Plains Renewable Energy, Inc.

24096 170th Avenue Fergus Falls, MN 56537-7518 Phone: 218-998-4301 Fax: 218-998-4302

www.gpreinc.com

Acid Reduction Startup Valve Alignment

Potential Hazards:

Possibility of pressuring up the system if valve alignment is not correct

Precautions to take:

Steps must be correct

Safety systems in place:

Pressure Relief valves in place

- 1. Inspect Product line to the Day Tanks TK-6101 and TK-6102, verifying valve alignment and mechanical integrity.
- 2. Align Product Condenser valves
 - a. Open V-44108 Product Condenser cooling water supply valve
 - b. Open V-44107 Product Condenser cooling water return valve
 - c. Close V-44153 Product Condenser cooling water bypass valve
 - d. Open V-44120 Product Condenser outlet valve to Dehydration Vacuum Eductor
- 3. Align Acid Reduction Column valves
 - a. Open V-44102 Acid Reduction ethanol inlet valve
 - b. Open V-44140 Acid Reduction ethanol inlet valve
- 4. Open V-44121, Product pump suction valve
- 5. Ensure PC-4401 Product pump has correct seal flush alignment, seal pot level and seal pot pressure.
- 6. Align Product Cooler valve
 - a. Open V-44125 Product Cooler inlet valve
 - b. Open V-44127 Product Cooler outlet valve
 - c. Close V-44126 Product Cooler bypass valve
 - d. Open V-44119 Product Cooler cooling water supply valve
 - e. Open V-44117 Product Cooler cooling water return valve
 - f. Close V-44139 Product Cooler Cooling water bypass valve
- 7. Align Product Filter #1 for service
 - a. Open V-44129 Product Filter #1 inlet valve
 - b. Open V-44137 Product Filter #1 outlet valve
 - c. Close V-44131 Product Filter #1 vent valve
 - d. Close V-44132 Product Filter #1 drain valve
- 8. Open V-44136 alcohol line header valve feeding the Day tanks, TK-6101 and TK-6102
- 9. Ensure TK 6101 Day tank #1 is ready to receive product



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10. Ensure closed TK-6102 Day Tank #2 inlet valve